

REMARKS

Claims 1-41 are currently pending in the application. Claims 1-41 were finally rejected. Claims 1, 23, 36, and 39 have been amended. Claims 18, 20, 33, and 35 have been canceled.

In the Final Office Action dated June 1, 2006, the Examiner rejected claims 1-4, 6-10, 12, 13, 16, 20, 21, 23-26, 28, 31, 35-37, 39, and 40 under 35 U.S.C. 103(a) as being unpatentable over what the Examiner has referred to as Applicant's admitted prior art (AAPA). The Examiner also rejected claims 1, 15, 23, 30, 36, and 39 over AAPA in view of U.S. Patent No. 6,961,761 (Masuyama). The Examiner also rejected claims 1, 5, 11, 18, 19, 22, 23, 27, 33, 34, 36, 38, 39 and 41 over AAPA in view of U.S. Patent Publication No. US 2001/0037435 A1 (Van Doren). Finally, the Examiner rejected claims 1, 14, 17, 23, 29, 32, 36, and 39 over AAPA in view of U.S. Patent No. 6,188,759 (Lorenzen). The rejections are respectfully traversed.

The Examiner has indicated that he is interpreting the phrases "previously specified" and "prior to beginning the configuring of the resources into the at least one partition" as "prior to building a single, undivided system or prior to building the routing tables." This leads the Examiner to conclude, therefore, that the claims of the present application read on the "greedy algorithm" described in the Background of the Invention of the present application in that the greedy algorithm first identifies available system resources and then builds the routing tables (thus enabling the links) according to this "previously specified schema." The Applicants respectfully disagree that such an interpretation is reasonable.

As is made clear in both the claims and the specification of the present application, the partitioning schema of the present invention is specified prior to the commencement of the partition building process. One of ordinary skill in the art would understand the phrase "previously specified partitioning schema" as recited in the claims of the present application to have this connotation. The Examiner's interpretation that "previously specified" means in accordance with the existing topology of devices in the system does not conform with the clear

meaning as evidenced by the present disclosure and as would be understood by one of ordinary skill in the art.

Notwithstanding the foregoing, the Applicants have amended claims 1, 23, 36, and 39 to more clearly describe the invention. Specifically, claim 1 of the present application has been amended to recite “a plurality of partitions” each of which comprises “a subset of the plurality of resources and a portion of the point-to-point transmission infrastructure.” Similar amendments have been introduced in the other independent claims of the application. As has been acknowledged by the Examiner, this is clearly distinguishable from the algorithm described in the background section of the present application in which only a “single, undivided system” is described. In view of the foregoing, the rejection of claims 1, 23, 36, and 39 over AAPA is believed overcome. The rejection of any dependent claims based on this combination is also believed overcome for at least the reasons discussed.

The Applicants further reassert their objection to the Examiner’s combination of Van Doren with the description from the Background of the Invention. Not only is the motivation to combine lacking, but the partitioning technique of Van Doren is not compatible with the system described with reference to Fig. 2 of the present application. That is, the hierarchical switch fabric which interconnects the processors in Van Doren is operable to directly route packets from every one of the nodes to every other one of the nodes (see the description of HS 400 with reference to Fig. 4 beginning in paragraph [0045]). In addition, it is clear that regardless of the number and nature of the partitions described in Van Doren the hierarchical switch fabric must still operate as a shared resource among the various partitions, i.e., there is no way to partition the switch fabric and have it remain operable.

By contrast, the point-to-point communication links of the system described in the Background of the Invention of the present application are *dedicated* links between the processing nodes which, in some cases, makes it necessary for indirect transmissions between

two processing nodes (i.e., via an intermediate processing node).

Because the partitioning technique described in Van Doren depends on the hierarchical switch fabric which directly connects any one of the nodes to any other one of the nodes, the technique would have to be significantly altered to be operable in the kind of point-to-point infrastructure described in the present application with reference to Fig. 2. Van Doren does not contain any teachings as to how this might be accomplished, or even any suggestions that such a result would be desirable. Therefore, because the technique taught by the Van Doren reference is not compatible in its disclosed form with the system shown in Fig. 2 of the present application, the references may not be properly combined. In view of the foregoing, all of the rejections referring to Van Doren should be withdrawn.

Even if the combination asserted by the Examiner was appropriate, the amendments proposed herein provide additional bases by which the claimed invention may be distinguished. That is, as mentioned above, by its very nature, Van Doren's switch fabric must be shared as a common resource among any partitions in that system. By contrast, claim 1 of the present application recites that the portion of the point-to-point transmission infrastructure in each partition is "distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition." This is necessitated by the dedicated nature of the point-to-point links of which the point-to-point transmission infrastructure is comprised. See, for example, the present specification at page 7, lines 19-23; page 11, lines 2-4; page 15, lines 9-11, and lines 22-23; etc. This limitation is clearly distinguishable from Van Doren's switch fabric which must remain undivided to facilitate its partitioning scheme.

In view of the foregoing, the rejection of claims 1, 23, 36, and 39 over AAPA and Van Doren is believed overcome. The rejection of any dependent claims based on this combination is also believed overcome for at least the reasons discussed.

The combination of Masuyama with AAPA is similarly inadequate to anticipate or

obviate the claimed invention. That is, Masuyama refers to a system interconnect 120 in its background (col. 1, lines 27-31) and in its detailed description (col. 2, lines 43-45). The interconnect is shown in Figure 1 as being shared by all CPU nodes 105, memory nodes 110, and I/O nodes 115. Masuyama states that “interconnect 120 may include components, such as packet routers and/or crossbar switches,” or “may be, for example, a global interconnect, or include a router.” In other words, Masuyama’s interconnect is an indivisible, shared interconnect by which the various nodes in the system communicate. Thus, as with the switch fabric of Van Doren, the interconnect of Masuyama cannot enable the partitioning of its system into “a plurality of partitions” in which the portion of the point-to-point transmission infrastructure in each partition is “distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition.”

In view of the foregoing, the rejection of claims 1, 23, 36, and 39 over AAPA and Masuyama is believed overcome. The rejection of any dependent claims based on this combination is also believed overcome for at least the reasons discussed.

With regard to the Examiner’s use of Lorenzen, the Applicants again point out that this reference is not relevant to the claimed invention. Lorenzen teaches techniques for routing calls in a telecommunications network in which a network processor dynamically alters routing recommendations stored in destination node tables in response to congestion reported by telecommunications switches in the network. These recommendations are used by telecommunications switches to route telecommunications signals with the network. See Abstract.

The teachings of Lorenzen are distinguishable from the claimed invention in a number of respects. Most notably, the described technique is for altering routing recommendations in a telecommunications network, not the partitioning of resources in a computer system. No actual partitioning of resources in Lorenzen’s telecommunications network occurs. That is, the only

things that change are the possible routing paths employed by the telecommunications switches. The only reference to partitioning made by Lorenzen is to note that execution of the dynamically controlled routing technique may be distributed among several processors, i.e., a kind of load balancing. See column 13, lines 24-35. The partitioning of resources in a computer system as claimed by the present invention is simply not described.

Even assuming that the combination of AAPA and Lorenzen was appropriate, the claims of the present invention, as amended, are further distinguishable in that this combination does not teach or suggest “a plurality of partitions” in which the portion of the point-to-point transmission infrastructure in each partition is “distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition.”

In view of the foregoing, the rejection of claims 1, 23, 36, and 39 over AAPA and Lorenzen is believed overcome. The rejection of any dependent claims based on this combination is also believed overcome for at least the reasons discussed.

In view of the fact that none of the art of record teaches the partitioning techniques recited in the claims of the present application, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (510) 663-1100.

Respectfully submitted,
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